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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/858,365	05/16/2001	Heiko Hunold	81127LPK	3213

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EXAMINER

HUNTSINGER, PETER K

ART UNIT

PAPER NUMBER

2624

DATE MAILED: 02/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/858,365

Applicant(s)

HUNOLD ET AL.

Examiner

Peter K. Huntsinger

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☒ Claim(s) 9-16 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: The "steps 31" on page 6, line 7, should refer to the steps 3'. The "color separation5" on page 7, line 12, should refer to the color separations.

Appropriate correction is required.

Claim Objections

2. Claims 6 and 9 are objected to because of the following informalities: A period is used in the phrase "is based., on measuring" on page 15, line 2. There should not be a period. The "control device (98, 8', 8", 8''")" on page 15, lines 21-22, should refer to the control device (8, 8', 8", 8''"). Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Nozaki et al.

Referring to claim 1, Nozaki et al. disclose an integer assignment of small steps of a first variable (Fig. 20, main-scanning recording lines, col. 3, lines 56-64) to a large

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step of a second variable (plane image, col. 9, lines 19-21) (Fig. 18A and 18B, ITOP signal, col. 2, lines 9-15) is carried out in such a way that for each assignment the numerical ratio remains constant or is changed in such a way that the assignment error never reaches the width of the smaller steps of the first variable in any assignment (Fig. 15, col. 27, lines 37-45). The ITOP or sub-scanning start signal corresponds to a predetermined number of BD signals (col.15, lines 41-46). Each BD signal corresponds to a single main scanning line (Fig. 18A and 18B, col. 2, lines 16-19). While figures 18A, 18B, and 20 are disclosed in the description of prior art section of Nozaki et al., the drawing applies to Nozaki et al.'s invention as shown in figure 2.

Referring to claim 2, Nozaki et al. disclose the numerical ratio of the assignment remains constant or changes in such a way that the assignment error never exceeds half the width of the digital steps of the smaller variable in any assignment (col. 27, lines 1-10). The ITOP or sub-scanning start signal corresponds to a predetermined number of BD signals (col.15, lines 41-46).

Referring to claim 3, Nozaki et al. disclose controlling register in a multicolor printing machine (col. 1, lines 6-8) by controlling the production of lines of image points (main scanning lines of Fig. 18A and 18B, col. 2, lines 1-5).). While figures 18A and 18B are disclosed in the description of prior art section of Nozaki et al., the drawing applies to Nozaki et al.'s invention as shown in figure 2.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nozaki et al.

Referring to claim 4, Nozaki et al. disclose assigning lines of image points (main scanning lines of Fig. 18A and 18B, col. 2, lines 1-5) produced on the image cylinders to fixed angular sequences of the image cylinders (length of recording sheet, col. 15, lines 13-21). Nozaki et al. does not explicitly disclose using multiple image cylinders to print an image. At the time of the invention, it would have been obvious to implement multiple image cylinders to print an image. The motivation for doing so would have been to designate an image cylinder to each color to increase the speed in printing images, which is a standard process in color printers (Official Notice, see MPEP 2144.03). While figures 18A and 18B are disclosed in the description of prior art section of Nozaki et al., the drawing applies to Nozaki et al.'s invention as shown in figure 2.

Referring to claim 5, Nozaki et al. disclose in order to achieve coincidence of register between the color separations (plane images) produced by the color printing units (developer units 219-222 of Fig. 1, col. 12, lines 39-43), said color separations are subdivided into areas which are assigned to one another (col. 12, lines 61-65), the areas consisting of a fixed number of lines of image points. Nozaki et al. disclose an ITOP signal corresponding to the generating of each color (col. 12, lines 47-52). The

ITOP signal corresponds to a predetermined number of BD signals (col.15, lines 41-46). Each BD signal corresponds to a single main scanning line (Fig. 18A and 18B, col. 2, lines 16-19). While figures 18A and 18B are disclosed in the description of prior art section of Nozaki et al., the drawing applies to Nozaki et al.'s invention as shown in figure 2.

Referring to claim 6, Nozaki et al. disclose the assignment is based, on measuring the positions of elements (Fig.18A and 18B, col. 2, lines 9-15) that carry images and substrates (recording sheet). While figures 18A and 18B are disclosed in the description of prior art section of Nozaki et al., the drawing applies to Nozaki et al.'s invention as shown in figure 2.

7. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nozaki et al. as applied to claim 6 above, and further in view of Hoshino et al.

Referring to claim 7, Nozaki et al. disclose the method of claim 6, but do not expressly disclose the printing of register marks. Hoshino et al. disclose assignment of the acquisition and evaluation of the data from register marks (16a, 16b, 16c, 17a, 17b, 17c, Fig. 1, col.4, lines 5-10) printed by the color printing units (col. 4, lines 18-22). Nozaki et al. and Hoshino et al. are combinable because they are from the same field of printing superimposed images. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to implement printing and evaluating register marks as disclosed by Hoshino et al. into the printing system of Nozaki et al. The motivation for doing so would have been to improve the positioning accuracy during

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printing and due to the conventionality of the use of register marks in multicolor printing. Therefore it would have been obvious to combine Hoshino et al. with Nozaki et al. to obtain the invention as specified in claim 7.

Referring to claim 8, Nozaki et al. disclose a control device (CPU 130, Fig. 2, col.14, lines 19-22), wherein the control device is designed in such a way that, for a successive assignment of two non-coincident digital variables, it performs an integer assignment of the small steps of the first variable (main-scanning recording lines, col. 3, lines 56-64) to a large step of the second variable (plane image, col. 9, lines 19-21) (ITOP signal, col. 2, lines 9-15) in such a way that the numerical ratio remains constant or is changed in such a way that the assignment error never reaches the width of the smaller steps of the first variable in any assignment (Fig. 15, col. 27, lines 37-45). The ITOP or sub-scanning start signal corresponds to a predetermined number of BD signals (col.15, lines 41-46). Each BD signal corresponds to a single main scanning line (Fig. 18A and 18B, col. 2, lines 16-19). While figures 18A and 18B are disclosed in the description of prior art section of Nozaki et al., the drawing applies to Nozaki et al.'s invention as shown in figure 2.

Allowable Subject Matter

8. Claims 9-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter K. Huntsinger whose telephone number is (703)306-4088. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Moore can be reached on (703)308-7452. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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